Notice of Allowability	Application No.	Applicant(s)
	10/661,465	VITALIANO ET AL.
	Examiner	Art Unit
	Russell S. Negin	1631

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment of 11/20/2006 and the terminal disclaimer of 2/9/2007*.

2. ☒ The allowed claim(s) is/are *1-30, 34-38, 42, 45 and 47-65*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

     * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

     (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

         1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

     (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

     Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 11/20/06

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with France Vitaliano on 8 February 2007.

The application has been amended as follows:

In the claims:

Please further amend the following claims in the instant set of claims.

1.   (Currently Amended): A~~n~~ ~~non-naturally-occurring~~ isolated quantum information

processing element ~~offering precise control over its fabrication and operation~~ comprising

a ~~man-made~~ cage, up to 100 nanometers in diameter, defining a ~~calculated,~~

~~artificial, environment-isolating~~ cavity ~~that is bioengineered and~~ formed from a plurality

of ~~artificially induced~~ self-assembling purified Clathrin protein molecules,

and

one or more ~~man-made~~ cargo elements ~~calculatedly~~ located within the ~~man-~~

~~made~~ cavity, wherein at least one of the cargo elements comprises a ~~man-made,~~

~~artificially configured~~ qubit ~~element that is by design~~ programmable into ~~a plurality of~~

one or more logical states~~, which states can deliberately entail, promote, enhance, and~~

~~exploit the properties of quantum coherence, superposition, entanglement,~~

~~communications, and other quantum phenomena that are not practically used in~~

~~naturally-occurring systems because by definition the latter do not offer the precise~~

~~control over their fabrication and operation that is required for quantum information~~

~~processing,~~

~~and~~

~~one or more of these man-made elements can be calculatedly expressed as non-~~

~~naturally-occurring quantum memory, register, bus, wire, logic gate, communications,~~

~~error correction, i/o module, encoder, decoder, and other information processing~~

~~functions not found in nature, enabling the functional basis of a man-made quantum~~

~~computer.~~

2.   (Currently Amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing

element according to claim 1, comprising ~~artificially configured~~ receptors for ~~artificially~~

capturing and ~~calculatedly~~ positioning one or more ~~artificially configured~~ cargo elements

within the ~~man-made~~ cavity vesicle ~~such that it enables non-natural placement of one~~

~~or more cargo elements with minimal inter-element spacings, thereby allowing dense~~

~~cargo element packing and with minimal inter-cargo interference~~.

3.   (Currently Amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing

element according to claim 2, comprising ~~an artificial~~ vesicle located within the ~~artificially~~

~~configured~~ cage and enclosing one or more ~~artificially configured~~ cargo elements,

wherein the ~~artificially configured~~ receptors extend through the ~~man-made~~ vesicle to

capture and ~~calculatedly~~ position a ~~artificially configured~~ cargo element within the ~~man-made~~ vesicle ~~such that it enables non-natural placement of one or more cargo elements with minimal inter-element spacings and with minimal inter-cargo-interference~~.

4. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 3, comprising ~~artificially configured~~ adaptors ~~calculatedly~~ disposed between the receptors and the ~~artificially configured~~ cage and ~~artificially~~ binding to the ~~one or more artificially configured~~ receptors ~~such that it enables non-natural placement of one or more cargo elements within the man-made vesicle~~.

5. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising a ~~man-made~~ vesicle located within the ~~artificially configured~~ cage and ~~artificially and calculatedly~~ enclosing one or more ~~artificially configured~~ cargo elements.

6. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~artificially configured~~ molecular tethers for ~~artificially~~ capturing and ~~non-naturally~~ positioning one or more ~~artificially configured~~ cargo elements within and or outside the ~~man-made~~ cavity.

7. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~artificially configured~~ direct cage bonding for

~~artificially~~ capturing and ~~non-naturally~~ positioning one or more ~~artificially configured~~ cargo elements within ~~and or outside~~ the ~~man-made~~ cavity.

8.   (Currently Amended): An <u>isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~artificially configured~~ receptors, molecular tethers and direct cage bonding for ~~artificially~~ capturing and ~~non-naturally~~ positioning one or more ~~artificially configured~~ cargo elements within ~~and or outside~~ the ~~man-made~~ cavity.

9.   (Currently Amended): An <u>isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, wherein the one or more ~~artificially configured~~ cargo elements of a subset of the quantum information processing elements further comprises a non-permeable~~, calculated, man-made~~ cavity.

10.   (Currently Amended): An <u>isolated</u> ~~non-natural~~ quantum information processing element according to claim 3, comprising a ~~man-made~~ vesicle forming ~~an artificial,~~ non-permeable~~, calculated, man-made~~ cavity.

11.   (Currently Amended): An <u>isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, comprising a ~~artificially configured~~ self-assembling cage that is ~~man-made to be~~ electrically neutral and ~~that calculatedly~~ inhibits charge transfer

between the ~~artificially configured~~ cage and its enclosed~~, artificially configured~~ cargo

elements~~, thereby deliberately promoting and enhancing quantum coherence~~.

12.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, comprising a ~~artificially configured~~ self-assembling cage

that ~~calculatedly~~ reduces the ~~natural~~ tendency of a plurality of logical states in a

quantum coherent state to collapse into a classical decoherent state.

13.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, comprising a ~~artificially configured~~ non-qubit-only cage

that ~~calculatedly~~ inhibits non-quantum information processing cargo elements from

interfering with ~~bio-engineered~~ qubit cargo element operation in one or more other

~~artificially configured~~ cages ~~that calculatedly function as man-made quantum memory,~~

~~register, bus, wire, logic gate, communications, error correction, i/o module, encoder,~~

~~decoder, and other information processing functions not found in nature~~.

14.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 3, comprising a self-assembling ~~man-made~~ vesicle that ~~by~~

~~human design~~ is ~~calculated to be~~ electrically neutral and ~~calculatedly~~ inhibits charge

transfer between the man-made vesicle and its enclosed, ~~artificially configured~~ cargo

elements.

15.   (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 3, comprising an ~~artificial,~~ self-assembling insulative vesicle that ~~non-naturally~~ reduces the ~~usual~~ tendency of a plurality of logical states in a quantum coherent state to collapse ~~when observed or interfered with~~ into a classical decoherent state.

16.   (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 4, comprising ~~artificially configured~~ self-assembling receptors and adaptors that are ~~by human design~~ electrically neutral and ~~calculatedly~~ inhibit charge transfer between the ~~man-made~~ vesicle and ~~artificially configured~~ cage and their enclosed, ~~artificially configured~~ cargo elements.

17.   (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising a ~~artificially configured~~ self-assembling cage that ~~calculatedly~~ reduces ~~natural and man-made~~ contaminant background radiation to ~~artificially configured~~ cargo carried within the ~~artificially configured~~ cage.

18.   (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 3, comprising an ~~artificial~~ self-assembling vesicle that ~~calculatedly~~ reduces ~~natural and man-made~~ contaminant background radiation to ~~artificially configured~~ cargo carried within the ~~man-made~~ vesicle.

19.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~an artificial,~~ self-assembling framework of ~~artificially configured~~ cages ~~to that by human design~~ structurally support one or more self-assembling ~~artificial QIP~~ quantum information processing elements.

20.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~an artificially configured,~~ self-assembling, electrically neutral substrate of ~~artificially configured~~ cages to structurally support one or more of the ~~artificially configured~~ self-assembling, ~~artificially configured~~ quantum information processing elements~~, forming a calculated design~~.

21.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, comprising ~~an artificially configured~~ self-assembling framework of ~~artificially configured~~ cages to structurally order one or more self-aligning ~~artificial~~ quantum information processing elements~~, forming a calculated design~~.

22.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein ~~an artificially configured~~ cage is ~~by calculated design is left intentionally~~ empty and includes no cargo elements.

23.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein the one or more ~~artificially configured~~ cargo

elements is ~~implemented as~~ a single ~~artificial~~ cargo element comprising a ~~non-naturally occurring~~ qubit ~~calculatedly~~ programmable into ~~a plurality of~~ one or more logical states~~,~~ ~~which cargo element can be calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate, communications, error-correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

24. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein the one or more ~~artificial~~ cargo elements are ~~calculatedly~~ a plurality of ~~artificial~~ cargo elements.

25. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein the plurality of ~~one or more artificial~~ cargo elements are ~~non-naturally occurring~~ qubits programmable ~~by human design~~ into an ~~calculatedly~~ plurality of logical states~~, which cargo elements can be calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

26. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein at least some of the plurality of ~~artificial~~ cargo elements are ~~intentionally induced to be~~ quantum information processing cargo elements~~, which cargo elements can be calculatedly expressed as man-made quantum~~

~~memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

27.   (Currently Amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 24, wherein at least some of the plurality of ~~artificial~~ cargo elements are ~~fabricated to be~~ non-quantum information processing cargo elements.

28.   (Currently amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~artificial~~ cargo elements ~~calculatedly~~ respond to ~~artificially directed~~ stimuli internal and external to the cage.

29.   (Currently amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 3, wherein a man-made vesicle and its contained cargo elements ~~calculatedly~~ respond to ~~certain artificially directed~~ stimuli internal and external to the vesicle.

30.   (Currently amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 24, wherein a subset of the ~~artificial~~ non-quantum information processing cargo elements include one or more <u>therapeutic</u> ~~artificially configured single task and or multitask in vivo and in vitro~~ agents ~~that are calculatedly induced to perform a specific task~~.

34. (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein a subset of ~~non-naturally-occurring~~ qubit ~~and non-quantum-information-processing~~ cargo elements include one or more ~~man-made, selectable emission~~ quantum dots ~~that calculatedly perform one or more logical operations using spin, and also deliberately having minimal material surrounding the quantum dot, which, by reducing contaminating background radiation, increases quantum coherence times and improves the performance of a quantum computer system and also improves the scalability of a quantum-dot-based quantum computer~~.

35. (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein a subset of the ~~artificial~~ cargo elements include one or more ~~man-made, selectable emission~~ photonic dots ~~that calculatedly perform one or more logical operations using spin, and also deliberately having minimal material surrounding the photonic dot, which, by reducing contaminating background radiation, increases quantum coherence times and improves the performance of a quantum computer system and also improves the scalability of a photonic-dot-based quantum computer~~.

36. (Currently Amended): A~~n~~ isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein a subset of the ~~artificial~~ cargo elements ~~intentionally~~ include one or more ~~artificially configured~~ liquids without ~~artificial~~ dopants or

with one or more ~~artificial~~ dopants of any suitable ~~man-made~~ type ~~that calculatedly produce a desired effect~~.

37.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 24, wherein a subset of the artificially configured cargo elements ~~intentionally~~ include a ~~artificially configured~~ gas or vapor without dopants or with one or more ~~artificially configured~~ dopants of any suitable ~~man-made~~ type ~~that calculatedly produce a desired effect~~.

38.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein one or more ~~artificial~~ qubit cargo elements are ~~intentionally~~ programmed ~~to perform logical operations~~ by one or more ~~calculated man-made~~ pulses of electromagnetic radiation~~, via which qubit cargo elements and their operations calculatedly function as man-made quantum memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information-processing functions not found in nature~~.

42.   (Currently amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~non-naturally-occurring~~ qubit includes an unpaired electron and the plurality of ~~intentionally induced~~ logical states of the ~~non-naturally-occurring~~ qubit are defined by ~~electron have one or more~~ spin polarization ~~properties and attributes that are calculatedly defined~~.

45.   (Currently amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~non-naturally-occurring~~ qubit includes a nitroxide molecule ~~one or more species of molecules that are calculatedly induced to have one or more logical states, which molecules can be calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

47.   (Currently Amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~non-naturally-occurring~~ qubit is photon-based and the plurality of ~~calculatedly induced~~ logical states of the photon-based qubit include ~~an artificially induced~~ coherent logical state~~, which states can be calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

48.   (Currently Amended): A<u>n isolated</u> ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~calculated~~ plurality of logical states includes ~~an artificially induced~~ coherent state~~, which state can be calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate, communications, error~~

~~correction, i/o module, encoder, decoder, and other information processing functions~~

~~not found in nature~~.

49.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, wherein the plurality of ~~calculatedly induced~~ logical states

includes an ~~artificially-induced~~ coherent state at room temperature, ~~which state can be~~

~~calculatedly expressed as man-made quantum memory, register, bus, wire, logic gate,~~

~~communications, error correction, i/o module, encoder, decoder, and other information~~

~~processing functions not found in nature~~.

50.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, wherein the self-assembling protein molecule is a purified

clathrin molecule.

51.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, wherein the ~~artificially configured~~ cage comprises

~~artificially configured,~~ self-assembling synthetic protein molecules.

52.   (Currently amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 4, wherein ~~artificial and artificially configured~~ receptors,

adaptors, and vesicle comprise natural and or synthetic protein molecules.

53.   (Currently amended): A~~n isolated~~ ~~non-natural~~ quantum information processing element according to claim 1, ~~calculatedly~~ comprising a~~n~~ ~~metallic~~ ~~artificially configured~~ coating ~~of one or more materials~~ on part or the entirety of the ~~artificially configured~~ ~~cage~~ ~~that enhance functional performance of the~~ cage.

54.   (Currently amended): A~~n isolated~~ ~~non-natural~~ quantum information processing element according to claim 4, ~~calculatedly~~ comprising a~~n metallic~~ ~~artificially configured~~ coating ~~of one or more materials~~ on a portion or an entirety of the ~~artificially configured~~ receptors, adaptors, and vesicle~~s~~ ~~that enhance their functional performance~~.

55.   (Currently Amended): A~~n isolated~~ ~~non-natural~~ ~~configured~~ quantum information processing element according to claim 1, wherein the ~~man-made~~ cage is ~~artificially~~ ~~induced to be~~ substantially greater than one nanometer in diameter.

56.   (Currently Amended): A~~n isolated~~ ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~man-made~~ cage is ~~artificially induced to be~~ at least about 50 nanometers in diameter.

57.   (Currently Amended): A~~n isolated~~ ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~man-made~~ cage is ~~artificially induced to be~~ at least about 100 nanometers in diameter.

58. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein the cage is ~~artificially induced to be~~ symmetric with respect to a plane ~~in order to facilitate a calculated result~~.

59. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein the ~~artificially configured~~ cage has ~~been artificially ordered to have~~ icosahedral geometry ~~in order to facilitate a calculated result~~.

60. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein ~~artificially configured~~ qubits are ~~intentionally and~~ linearly positioned ~~by means of artificial inducement~~ at ~~one or more desired~~ vertices along a single plane using circulant ordering ~~in order to facilitate a calculated result~~.

61. (Currently Amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein ~~by means of artificial inducement,~~ multiple ~~artificially configured~~ quantum information processing elements are physically linked together~~, which elements can be calculatedly expressed as quantum memory, register, bus, wire, logic gate, communications, error correction, i/o module, encoder, decoder, and other information processing functions not found in nature~~.

62. (Currently amended): An isolated ~~non-natural~~ quantum information processing element according to claim 1, wherein ~~by means of artificial inducement,~~ multiple,

~~artificially configured~~ self-assembling quantum information processing elements are

functionally linked together~~, either locally and or at an arbitrary distance, which quantum~~

~~information processing elements can be calculatedly expressed as man-made quantum~~

~~memory, register, bus, wire, logic gate, communications, error correction, i/o module,~~

~~encoder, decoder, and other information processing functions not found in nature~~.

63.   (Currently amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, wherein the ~~artificially configured~~ quantum information

processing element ~~calculatedly~~ forms an ~~artificial~~ hybrid system ~~upon its being~~

~~artificially induced to perform physical and or functional integration with one or more~~

~~non-invention elements in vitro and or in vivo~~.

64.   (Currently Amended): A method for forming ~~a non-naturally occurring~~ quantum

information processing element ~~offering precise control over its fabrication and~~

~~operation~~ comprising

       a ~~man-made~~ cage, up to 100 nanometers in diameter, defining a ~~calculated,~~

~~artificial, environment-isolating~~ cavity ~~that is bioengineered and~~ formed from a plurality

of self-assembling purified Clathrin protein molecules,

and

       one or more ~~man-made~~ cargo elements ~~calculatedly~~ located within the ~~man-~~

~~made~~ cavity, wherein at least one of the cargo elements comprises a ~~man-made,~~

~~artificially configured~~ qubit ~~element that is by design~~ programmable into one or more

logical states, ~~which states can deliberately entail, promote, enhance, and exploit the~~

~~properties of quantum coherence, superposition, entanglement, communications, and~~

~~other quantum phenomena,~~

~~and~~

~~one or more of these man-made elements can be calculatedly expressed as non-~~

~~naturally occurring quantum memory, register, bus, wire, logic gate, communications,~~

~~error correction, i/o module, encoder, decoder, and other information processing~~

~~functions not found in nature, enabling the functional basis of a man-made quantum~~

~~computer.~~

65.   (Currently Amended): An isolated ~~non-natural~~ quantum information processing

element according to claim 1, wherein the ~~non-natural~~ quantum information processing

element comprises,

a functionalized, ~~artificially configured~~ cage for ~~calculatedly~~ attaching one or

more ~~artificial~~ elements external to the ~~artificially configured~~ cage.

Conclusion

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the central PTO Fax Center. The faxing of such pages must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CFR § 1.6(d)). The Central PTO Fax Center Number is (571) 273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Negin, Ph.D., whose telephone number is (571) 272-1083. The examiner can normally be reached on Monday-Friday from 7am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Irem Yucel, Supervisory Patent Examiner, can be reached at (571) 272-0781.

Information regarding the status of the application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information on the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RSN
16 February 2007

JOHN S. BRUSCA, PH.D
PRIMARY EXAMINER